

PRE-APPEAL BRIEF REQUEST FOR REVIEW
- Expedited Examining Procedure -
Examining Group 1794

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Inventor(s):
Andrew M. Howe, et al.

Group Art Unit: 1794
Examiner: Gregory D. Clark

INKJET RECORDING ELEMENT
COMPRISING PARTICLES AND
POLYMERS

Serial No.: 10/553,341
Filed: October 17, 2005

Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicants request pre-appeal brief review of the final Office Action dated October 15, 2009, and the Advisory Action dated December 30, 2009, in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal.

Claims 1-16, 19-20, and 23-27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nohr (2002/149656). Claims 17-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nohr and Landry-Coltrain (2002/0094418).

According to the Examiner, regarding independent claim 1, Nohr discloses a recording element (abstract and paragraph 26) containing a substrate (paragraph 16) and colloidal particles having a charged or chargeable surface (paragraph 13) associated with two water soluble alternating layers of oppositely charged organic polymers having ionized or ionisable groups on the surface of the colloidal particles and another organic polymer having ionized or ionisable groups the same as that of the surface of the colloidal particles (paragraph 13), that Nohr discloses a coating containing the structure shown in Figure 2 that was subsequently applied to paper and the resulting coating was allowed to dry (paragraph 141), that Nohr discloses recording mediums containing the nanoparticles (paragraph 38) and the nanoparticles can be used in ink jet inks (paragraph 18). While acknowledging

that Nohr fails to mention an image receiving layer, the Examiner states that Nohr describes in paragraphs 16 and 38 the usage of nanoparticles in a “recording medium”, and the Examiner “takes the position” that Nohr’s disclosure of the utility of the nanoparticles in a recording medium would have made it obvious to one of ordinary skill in the art at the time of the invention to use such nanoparticles in an inkjet element, and that it is commonly known in the art that ink jet elements generally include an ink receiving or image receiving layer. The rejection represents clear error for at least the following reasons.

Rather than establish a *prima facie* case of obviousness, the asserted rejection is in clear error as it is based on misconstruction of the actual teachings of Nohr, and unsupported allegations of obviousness. Contrary to the Examiner’s assertion, referenced paragraph 26 and the abstract of Nohr do not refer to a “recording element” as such term is used in the context of the present invention. Paragraph 26 only describes individual charged polymer-colorant coated nanoparticles, and the abstract refers to nanoparticle based “recording mediums, inks and ink compositions”. Nohr uses the term “recording medium” in referenced paragraph 16 (and similarly elsewhere through the reference) to refer to a coatable composition which itself contains the polymer-colorant coated nanoparticles, which “recording medium” is coated and fixed on a substrate to form a recording. An “inkjet recording element” in accordance with the present claimed invention, on the other hand, does not refer to a coatable colorant containing composition, but rather an element comprising a support and at least one image-receiving layer thereon which is itself designed to be image-wise printed with other colorants as described in accordance with the present invention. The coatable “recording medium” of Nohr does not form an image-receiving layer, but rather comprises a colorant itself which actually forms a recording when coated on a substrate. While referenced Fig. 2 of Nohr may depict a colloidal particle with two alternating layers of opposite charges, further referenced paragraph 141 (Example 30) describes use of silica particles which were only coated with a single layer of polyvinylpyrrolidone, rather than particles additionally coated with a polymer-colorant as in Fig. 2.

While Nohr employs use of the term “recording medium” at various points in the specification, it is clear that such term is intended to refer to a printing ink or other coatable composition comprising the described nanoparticles used in a

recording process. There is no evidence whatsoever provided to support the “position taken” by the Examiner that such prior art suggested use of colored nanoparticles in colored inks and coatable “recording mediums” as described in Nohr would have made it obvious to use such nanoparticles in an inkjet recording element as described in the present invention. Note specifically that the “recording medium” of Nohr clearly refers to coatable compositions rather than a recording element in accordance with the present invention, as it includes colorant and a liquid vehicle (see, e.g., claim 1 of Nohr). Thus the Examiner has committed clear error in misinterpreting the Nohr reference, and the unsupported bare allegations as to obviousness based on such misinterpretations clearly do not establish a prima facie case of obviousness.

The various further modifications to the actual teachings of Nohr proposed by the Examiner with regard to the dependent claims as being “obvious” further do not overcome the basic deficiencies of the Nohr reference as discussed above with respect to establishing a prima facie case of obviousness. While Nohr may disclose that the nanoparticle formulations thereof may be incorporated into a variety of liquid mediums to form colorant compositions, including inks in a digital ink jet process, such disclosure does not in any way teach or suggest the present claimed invention, which is directed towards an inkjet recording element comprising specified formulation, which specified inkjet recording element is itself designed to be printed upon with a separate inkjet composition (i.e., inkjet ink).

In response to Applicant’s argument that Nohr does not teach an inkjet recording element, the examiner “counters” that Nohr discloses the nanoparticles are used in “recording mediums” (paragraph 38), and that a person of ordinary skill in the art would clearly utilize such nanoparticles in recording elements in general which would include inkjet recording elements and inkjet recording elements are commonly known to include an image receiving layer. The Examiner provides no basis for such allegation however. To the contrary, as explained above the described “recording mediums” of Nohr are colored coating compositions which are applied to a substrate to form a recording. Use of the colored nanoparticles of Nohr in such a coatable “recording medium” clearly does not teach or suggest the use of the claimed colloidal particles in an inkjet recording element itself (i.e., a recording element designed for being printed with an ink jet ink, as opposed to the composition of the ink itself).

In response to Applicant's argument that Example 30 of Nohr does not disclose a coating composition containing a structure as shown in figure 2, but rather silica with single layer of polyvinylpyrrolidone, the Examiner "counters" that example 30 was merely shown to demonstrate how charged nanoparticles can be applied to a paper substrate and dried, and that Example 29 shows a method to formulate nanoparticles coated with alternating polymer colorant layers. Such "counter" argument by the Examiner, however, only relates to the composition of the individual nanoparticles of Nohr, and is inconsistent with the actual stated rejection, and in any event does not aid in establishing a *prima facie* case of obviousness with respect to the actual presently claimed invention. While Nohr's claims 48 and 49 may claim a "recording medium" with surface modified nanoparticle with alternating colorant charged polymer layers, such claims are in no way suggestive of an inkjet recording element itself, as such claimed "recording medium" is clearly directed towards a coatable colored recording liquid, as evidenced by the claim requirement of a liquid vehicle, rather than an inkjet recording element comprising an image-receiving layer.

In response to the Applicant's argument that Nohr only mentions alternating layers of charged polymers but no copolymers with positive and negative charges, the examiner "counters" that a polyampholyte copolymer with some uncharged groups represent a subclass that is often made by copolymerizing both positively and negative charged monomer (or their respective blocked functional groups forms) along with uncharged monomers to achieve a copolymer having positive, negative, uncharged and uncharged groups. There is no support based on the actual teachings of Nohr, however, that use of such an "obvious" polymeric species to treat the surface of nanoparticles would promote increased control of the color density in ink jet processes as alleged by the Examiner. Thus, the Examiner's mere allegation of obviousness clearly does not establish a *prima facie* case of obviousness.

Regarding the rejection of claims 17-18, the examiner takes the position that Nohr's disclosure of the utility of the nanoparticles in a "recording medium" would have made it obvious to use such nanoparticles in an ink jet medium. The Examiner states it would have been obvious to include binders and mordants in an image receiving layer of a recording medium since Nohr discloses that the nanoparticles can be used in a recording medium which are known to include an image receiving layer and Landry-Coltrain clearly teaches commonly used absorbent

materials. The Examiner's position continues to misinterpret the actual teachings of Nohr with respect to a coatable "recording medium" as relating to an inkjet recording element comprising an image receiving layer. There simply is no teaching or suggestion of any image receiving layer in Nohr to be modified by the teachings of Landry-Coltrain as proposed by the Examiner. In view thereof, it follows that the subject matter of the claims clearly would not have been obvious of Nohr and Landry-Coltrain at the time the invention was made, and that such asserted rejection is in clear error.

The Advisory Action continues to mischaracterize Nohr's teachings as to "recording mediums". In particular, the Examiner incorrectly argues that application of the nanoparticles of Nohr to a substrate is a method of creating a new recording medium. Again, the "recording medium" as taught by Nohr is the actual coatable liquid composition comprising the charged polymer-colorant and a liquid vehicle, not the resulting coated element. The referenced use of colorless charged polymers in paragraphs 15 and 59 is only with regard to use in combination with charged polymer-colorant layers in the described nanoparticles, not to use in an inkjet recording element comprising an image-receiving layer. Such arguments accordingly fail to address the clear error of the asserted rejection.

In view of the foregoing remarks a prompt and favorable action in response to this request is earnestly solicited.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.